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1. Untranslatable words are replaced with asterisks (***).
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FULL CONTENTS

[Claim(s)]

[Claim 1] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, an external signal detecting element, and a hour meter side portion, and [said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures, it equips in the end of the non-end of line it is characterized by supplying the electric power of said battery to said radio receive section according to the external signal detection output of said external signal detecting element.

[Claim 2] An external signal detecting element detects the electromagnetic waves from the outside as an external signal, and the period when a control section does not supply the electric power of a battery to said radio receive section supplies the electromagnetic wave detection output of said external signal detecting element to said radio receive section. If this radio receive section operates by the electromagnetic wave detection output of said external signal detecting element, it will equip in the end according to claim 1 of the non-end of line it is characterized by supplying the electric power of said battery to that radio receive section.

[Claim 3] An external signal detecting element detects the electromagnetic waves from the outside as an external signal, and a control section will be equipped in the end according to claim 1 of the non-end of line it is characterized by supplying the electric power of a battery to said radio receive section, if the detection output of said external signal detecting element exceeds the predetermined value set up beforehand.

[Claim 4] Consist of equipment and radio communication equipment which performs wireless communications, and in said end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures The period which does not supply the electric power of said battery to said radio receive section supplies the detection

output of said external signal detecting element to said radio receive section. If this radio receive section operates by the detection output of said external signal detecting element, will supply the electric power of said battery to that radio receive section, and [said radio communication equipment] The radio communications system characterized by transmitting the electromagnetic waves of transmit information after transmitting the electromagnetic waves on which said radio receive section operates by the detection output of said external signal detecting element to equipment in said end of the non-end of line.

[Claim 5] Consist of equipment and radio communication equipment which performs wireless communications, and in said end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures If the detection output of said external signal detecting element exceeds the predetermined value set up beforehand, will supply the electric power of said battery to said radio receive section, and [said radio communication equipment] The radio communications system characterized by transmitting the electromagnetic waves of transmit information after the detection output of said external signal detecting element transmits the electromagnetic waves exceeding a predetermined value to equipment in said end of the non-end of line.

[Claim 6] Consist of equipment and two or more radio communication equipments which perform wireless communications, and in said end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, an external signal detecting element, and a hour meter side portion, and [with said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures According to the external signal detection output of said external signal detecting element, supply the electric power of said battery to said radio receive section, and [one of said each of the radio communication equipment] When the control section of equipment supplies the electric power of said battery to said radio receive section in said end of the non-end of line according to the hour entry which said hour meter side portion measures, the electromagnetic waves of transmit information are transmitted. One of said each of the radio communication equipment is a radio communications system characterized by transmitting the electromagnetic waves of transmit information when the control section of equipment supplies the electric power of said battery to said radio receive section in said end of the non-end of line according to the external signal detection output of said external signal detecting element.

[Claim 7] Consist of equipment and two or more radio communication equipments which perform wireless communications, and in said end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and

[with said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures The period which does not supply the electric power of said battery to said radio receive section supplies the detection output of said external signal detecting element to said radio receive section. If this radio receive section operates by the detection output of said external signal detecting element, will supply the electric power of said battery to that radio receive section, and [one of said each of the radio communication equipment] When the control section of equipment supplies the electric power of said battery to said radio receive section in said end of the non-end of line according to the hour entry which said hour meter side portion measures, the electromagnetic waves of transmit information are transmitted. One of said each of the radio communication equipment is a radio communications system characterized by transmitting the electromagnetic waves of transmit information after transmitting the electromagnetic waves that said radio receive section operates by the detection output of said external signal detecting element in equipment in said end of the non-end of line.

[Claim 8] Consist of equipment and two or more radio communication equipments which perform wireless communications, and in said end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures If the detection output of said external signal detecting element exceeds the predetermined value set up beforehand, will supply the electric power of said battery to said radio receive section, and [one of said each of the radio communication equipment] When the control section of equipment supplies the electric power of said battery to said radio receive section in said end of the non-end of line according to the hour entry which said hour meter side portion measures, the electromagnetic waves of transmit information are transmitted. One of said each of the radio communication equipment is a radio communications system characterized by transmitting the electromagnetic waves of transmit information after transmitting the electromagnetic waves that the detection output of said external signal detecting element exceeds a predetermined value in equipment in said end of the non-end of line.

[Claim 9] It sets to equipment in the end equipped with a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element, and the hour meter side portion of the non-end of line. When said external signal detecting element detects the signal from the outside first, electric power is supplied to said radio receive section from said battery. Then, the hour entry containing an interval for said radio receive section to make the electric power of identification information and said battery supply to said radio receive section intermittently from the exterior is received. While said hour meter side portion sets a hour entry as an inside by this, start time Measurement Division immediately, and henceforth [with said control section] It is the initial-setting method of equipment in the end of the non-end of line it is characterized by supplying the electric power of said battery to said radio receive section according to the external signal detection output of said external signal detecting element while supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures.

[Claim 10] It sets to equipment in the end equipped with a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and the hour meter side portion of the non-end of line. When said external signal detecting element detects the electromagnetic waves from the outside first, electric power is supplied to said radio receive section from said battery. Then, the hour entry containing an interval for said radio receive section to make the electric power of identification information and said battery supply to said radio receive section intermittently from the exterior is received. While said hour meter side portion sets a hour entry as an inside by this, start time Measurement Division immediately, and henceforth [with said control section] While supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures The period which does not supply the electric power of said battery to said radio receive section supplies the electromagnetic wave detection output of said external signal detecting element to said radio receive section. It is the initial-setting method of equipment in the end of the non-end of line it is characterized by supplying the electric power of said battery to that radio receive section if this radio receive section operates by the electromagnetic wave detection output of said external signal detecting element.

[Claim 11] It sets to equipment in the end equipped with a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and the hour meter side portion of the non-end of line. Said external signal detecting element detects the electromagnetic waves from the outside first, and if the detection output exceeds the predetermined value set up beforehand, electric power will be supplied to said radio receive section from said battery. Then, the hour entry containing an interval for said radio receive section to make the electric power of identification information and said battery supply to said radio receive section intermittently from the exterior is received. While said hour meter side portion sets a hour entry as an inside by this, start time Measurement Division immediately, and henceforth [with said control section] It is the initial-setting method of equipment in the end of the non-end of line it is characterized by supplying the electric power of said battery to said radio receive section if the electromagnetic wave detection output of said external signal detecting element exceeds said predetermined value while supplying the electric power of said battery to said radio receive section intermittently according to the hour entry which said hour meter side portion measures.

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the initial-setting method of equipment in the radio communications system which uses equipment in equipment and this end of the non-end of line in the end of the non-end of line a battery drive is carried out, and the end of the non-end of line a battery drive is carried out.

[0002]

[Description of the Prior Art] As equipment, the cellular phone etc. is known in the end of the non-end of line a battery drive is carried out, for example. Moreover, equipment is used in the end of the non-end

of line a battery drive is carried out also as an electronic bin card used for the storage shelf which stores goods in an electronic bin card, a warehouse, etc. which are used for the showcase which displays goods at a store etc. as an object for a price display as an object for an inventory-figures display.

[0003] Since equipment stops achieving a duty if most electric charges stored in the battery are emitted, it suppresses consumption of a battery as much as possible, and enables it to use it for a long time in such the end of the non-end of line a battery drive is carried out. In order for there to be a receiving circuit and a transmitting circuit in equipment in the end of the non-end of line and to suppress consumption of a battery as much as possible, especially, battery power was intermittently supplied to the receiving circuit, and time for a receiving circuit not to operate is set up comparatively long.

[0004]

[Problem to be solved by the invention] However, it had to wait until it can be received immediately and the receiving circuit operated by supply of the following battery power, since a receiving circuit did not operate even if there was a signal addressed to equipment from the exterior in the end of the non-end of line when time for a receiving circuit not to operate was set up comparatively long.

[0005] For example, [equipment] in the end of the non-end of line since price setting of goods is usually performed in the decided time zone before opening when used as an electronic bin card which displays the prices of goods in a store Since the time zone is set up also in a limited special offer which sets up a time zone and sells goods at a reduced price that what is necessary is just to perform the electric power supply to a receiving circuit according to the time zone What is necessary is just to control by a timer so that only the short time moreover decided on of the one day that what is necessary is just to perform the electric power supply to a receiving circuit according to the time zone since the hour corresponding of the price change to equipment was managed in a short time in the end of the non-end of line connects a receiving circuit to a battery and performs an electric power supply. Therefore, time for a receiving circuit not to operate in this case can be set up comparatively long.

[0006] However, like a perishable food, in the case of the short goods of a retention cycle, when it becomes near the closing or there are many inventory figures, it may sell at a reduced price by judgment of the administrator of a store. In such a case, if time for a receiving circuit not to operate is set up for a long time, the problem of change of a price becoming impossible immediately will arise. However, if time for a receiving circuit not to operate was shortened, there is a problem that a battery life becomes short.

[0007] Then, the invention according to claim 1 to 3 can set up time not to supply battery power to a radio receive section for a long time, and can suppress consumption of a battery as much as possible. And equipment is offered in the end of the non-end of line it changes into the state where battery power to a radio receive section is supplied always, and it can receive immediately with the signal from the outside in the period which does not supply battery power.

[0008] Moreover, the invention according to claim 4 to 8 can set up time not to supply battery power to a radio receive section for a long time in equipment in the end of the non-end of line, and can suppress consumption of a battery as much as possible. And change into the state where battery power to a radio receive section is supplied always, and it can receive immediately with the signal from the outside in the period which does not supply battery power, and by this The radio communications system which can transmit at any time is offered to transmit information to equipment from radio communication equipment in the end of the non-end of line.

[0009] After [moreover,] initial setting of invention according to claim 9 to 11 is possible in advance

and initializing Time not to supply battery power to a radio receive section can be set up for a long time, and consumption of a battery can be suppressed as much as possible. And the initial-setting method of equipment is offered in the end of the non-end of line it changes into the state where battery power to a radio receive section is supplied always, and it can receive immediately with the signal from the outside in the period which does not supply battery power.

[0010]

[Means for solving problem] With the radio receive section where invention according to claim 1 acquires the information included in a battery and electromagnetic waves from the outside Have the control section which controls the electric power supply to this radio receive section, an external signal detecting element, and a hour meter side portion, and [a control section] While supplying the electric power of a battery to a radio receive section intermittently according to the hour entry which a hour meter side portion measures, it is in equipment in the end of the non-end of line the electric power of a battery is supplied to a radio receive section according to the external signal detection output of an external signal detecting element.

[0011] In invention according to claim 2, in equipment, an external signal detecting element detects the electromagnetic waves from the outside as an external signal in the end according to claim 1 of the non-end of line. It is in the period when a control section does not supply the electric power of a battery to a radio receive section supplying the electromagnetic wave detection output of an external signal detecting element to a radio receive section, and supplying the electric power of a battery to that radio receive section, if this radio receive section operates by the electromagnetic wave detection output of an external signal detecting element.

[0012] In invention according to claim 3, an external signal detecting element detects the electromagnetic waves from the outside as an external signal, and there is [in / the end according to claim 1 of the non-end of line / equipment] a control section in supplying the electric power of a battery to a radio receive section, when the detection output of an external signal detecting element exceeds the predetermined value set up beforehand.

[0013] Invention according to claim 4 consists of equipment and radio communication equipment which performs wireless communications, and in the end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with a control section] While supplying the electric power of a battery to a radio receive section intermittently according to the hour entry which a hour meter side portion measures The period which does not supply the electric power of a battery to a radio receive section supplies the detection output of an external signal detecting element to a radio receive section. If this radio receive section operates by the detection output of an external signal detecting element, will supply the electric power of a battery to that radio receive section, and [radio communication equipment] It is in the radio communications system which transmits the electromagnetic waves of transmit information, after transmitting the electromagnetic waves on which a radio receive section operates by the detection output of an external signal detecting element to equipment in the end of the non-end of line.

[0014] Invention according to claim 5 consists of equipment and radio communication equipment which performs wireless communications, and in the end of the non-end of line in equipment and this end of

the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with a control section] While supplying the electric power of a battery to a radio receive section intermittently according to the hour entry which a hour meter side portion measures If the detection output of an external signal detecting element exceeds the predetermined value set up beforehand, the electric power of a battery will be supplied to a radio receive section, and radio communication equipment is in the radio communications system which transmits the electromagnetic waves of transmit information, after the detection output of an external signal detecting element transmits the electromagnetic waves exceeding a predetermined value to equipment in the end of the non-end of line.

[0015] Invention according to claim 6 consists of equipment and two or more radio communication equipments which perform wireless communications, and in the end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, an external signal detecting element, and a hour meter side portion, and [with a control section] While supplying the electric power of a battery to a radio receive section intermittently according to the hour entry which a hour meter side portion measures According to the external signal detection output of an external signal detecting element, supply the electric power of a battery to a radio receive section, and [one of each of the radio communication equipment] Transmit, when the control section of equipment supplies the electric power of a battery to a radio receive section in the end of the non-end of line according to the hour entry which a hour meter side portion measures, and the electromagnetic waves of transmit information [one of each of the radio communication equipment] When the control section of equipment supplies the electric power of a battery to a radio receive section in the end of the non-end of line according to the external signal detection output of an external signal detecting element, it is in the radio communications system which transmits the electromagnetic waves of transmit information.

[0016] Invention according to claim 7 consists of equipment and two or more radio communication equipments which perform wireless communications, and in the end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with a control section] While supplying the electric power of a battery to a radio receive section intermittently according to the hour entry which a hour meter side portion measures The period which does not supply the electric power of a battery to a radio receive section supplies the detection output of an external signal detecting element to a radio receive section. If this radio receive section operates by the detection output of an external signal detecting element, will supply the electric power of a battery to that radio receive section, and [one of each of the radio communication equipment] Transmit, when the control section of equipment supplies the electric power of a battery to a radio receive section in the end of the non-end of line according to the hour entry which a hour meter side portion measures, and the electromagnetic waves of transmit information [one of each of the radio

communication equipment] It is in the radio communications system which transmits the electromagnetic waves of transmit information, after transmitting the electromagnetic waves that a radio receive section operates by the detection output of an external signal detecting element in equipment in the end of the non-end of line.

[0017] Invention according to claim 8 consists of equipment and two or more radio communication equipments which perform wireless communications, and in the end of the non-end of line in equipment and this end of the non-end of line in the end of the non-end of line [equipment] Have a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and a hour meter side portion, and [with a control section] While supplying the electric power of a battery to a radio receive section intermittently according to the hour entry which a hour meter side portion measures If the detection output of an external signal detecting element exceeds the predetermined value set up beforehand, will supply the electric power of a battery to a radio receive section, and [one of each of the radio communication equipment] Transmit, when the control section of equipment supplies the electric power of a battery to a radio receive section in the end of the non-end of line according to the hour entry which a hour meter side portion measures, and the electromagnetic waves of transmit information [one of each of the radio communication equipment] It is in the radio communications system which transmits the electromagnetic waves of transmit information, after transmitting the electromagnetic waves that the detection output of an external signal detecting element exceeds a predetermined value in equipment in the end of the non-end of line.

[0018] Invention according to claim 9 is set to equipment in the end equipped with a battery, the radio receive section which acquires the information included in electromagnetic waves from the outside, the control section which controls the electric power supply to this radio receive section, the external signal detecting element, and the hour meter side portion of the non-end of line. When an external signal detecting element detects the signal from the outside first, electric power is supplied to a radio receive section from a battery. Then, the hour entry containing an interval for a radio receive section to make the electric power of identification information and a battery supply to said radio receive section intermittently from the exterior is received. While time Measurement Division is immediately started while a hour meter side portion sets a hour entry as an inside by this, and supplying the electric power of a battery to a radio receive section intermittently by a control section henceforth according to the hour entry which a hour meter side portion measures It is in the initial-setting method of equipment in the end of the non-end of line the electric power of a battery is supplied to a radio receive section according to the external signal detection output of an external signal detecting element.

[0019] With the radio receive section where invention according to claim 10 acquires the information included in a battery and electromagnetic waves from the outside It sets to equipment in the end equipped with the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and the hour meter side portion of the non-end of line. When an external signal detecting element detects the electromagnetic waves from the outside first, electric power is supplied to a radio receive section from a battery. Then, the hour entry containing an interval for a radio receive section to make the electric power of identification information and a battery supply to said radio receive section intermittently from the exterior is received. While time Measurement Division is immediately started while a hour meter side

portion sets a hour entry as an inside by this, and supplying the electric power of a battery to a radio receive section intermittently by a control section henceforth according to the hour entry which a hour meter side portion measures The period which does not supply the electric power of a battery to a radio receive section supplies the electromagnetic wave detection output of an external signal detecting element to a radio receive section, and when this radio receive section operates by the electromagnetic wave detection output of an external signal detecting element, it is in the initial-setting method of equipment in the end of the non-end of line the electric power of a battery is supplied to that radio receive section.

[0020] With the radio receive section where invention according to claim 11 acquires the information included in a battery and electromagnetic waves from the outside It sets to equipment in the end equipped with the control section which controls the electric power supply to this radio receive section, the external signal detecting element which detects the electromagnetic waves from the outside, and the hour meter side portion of the non-end of line. An external signal detecting element detects the electromagnetic waves from the outside first, and if the detection output exceeds the predetermined value set up beforehand, electric power will be supplied to a radio receive section from a battery. Then, the hour entry containing an interval for a radio receive section to make the electric power of identification information and a battery supply to said radio receive section intermittently from the exterior is received. While time Measurement Division is immediately started while a hour meter side portion sets a hour entry as an inside by this, and supplying the electric power of a battery to a radio receive section intermittently by a control section henceforth according to the hour entry which a hour meter side portion measures When the electromagnetic wave detection output of an external signal detecting element exceeds a predetermined value, it is in the initial-setting method of equipment in the end of the non-end of line the electric power of a battery is supplied to a radio receive section.

[0021]

[Mode for carrying out the invention] The form of operation of this invention is hereafter explained with reference to Drawings.

Drawing 1 is the block diagram showing the composition of a radio communications system. (Form of the 1st operation) In the range 2 which can communicate the base transceiver station 1 which is radio communication equipment, 3-n is arranged and equipment 3-1 - 3-n are managed in the non-end-of-line end of n stand with equipment 3-1, 3-2, 3-3, --, the terminal management equipment 5 connected to said base transceiver station 1 through the communication line 4 in the non-end-of-line end of this n stand. Communication of said terminal management equipment 5 has become possible with other apparatus through the communication line 6.

[0022] Moreover, there is personal digital assistant equipment 7 which is other radio communication equipments in the range 2 which can communicate said base transceiver station 1, and this personal digital assistant equipment 7 has come to be able to perform said base transceiver station 1 and wireless communications, moving free in the inside of the range 2. Moreover, the wireless communications of equipment 3-1 - 3-n have become possible in the state where a mutual distance is approaching short in said personal digital assistant equipment 7 and each end of the non-end of line.

[0023] Equipment 3-1 - 3-n prepare the battery 11, the control section 12, the radio receive section 13, and the wireless transmission section 14 which constitute a power supply in said each end of the non-end of line, as shown in drawing 2 . While connecting the power supply terminal of said control section 12 to said battery 11, the power supply terminal of said radio receive section 13 was connected through the

switch 15, and the power supply terminal of said wireless transmission section 14 is connected through a switch 16.

[0024] Said control section 12 outputted the prescribed voltage signal from the output terminal O1, and connected the push switch 17 between this output terminal O1 and input terminal I1, and has grounded said input terminal I1 through resistance 18. Thereby, a zero level usually has an input to the input terminal I1, and when a push switch 17 is operated, the prescribed voltage signal from said output terminal O1 is inputted. And when a prescribed voltage signal is inputted into the input terminal I1, a signal is outputted from the output terminal O2, and said switch 15 is made to turn on.

[0025] Said radio receive section 13 will operate by the electric power supply from a battery 11, if said switch 15 is turned on. If there is reception in the input antenna 19 in this state, a signal will be taken in, and amplification of a signal, frequency conversion, and a recovery are performed, it is considered as a digital signal, and that digital signal is supplied to the input terminal I2 of said control section 12. And when the input of the received signal from said radio receive section 13 is lost, said control section 12 suspends the signal output from the output terminal O2, and makes said switch 15 turn off.

[0026] Moreover, if a sending signal occurs, said control section 12 outputs a signal from the output terminal O3, it makes said switch 16 turn on, will supply the electric power from a battery 11 to said wireless transmission section 14, will operate it, and will output a sending signal to said wireless transmission section 14 from the output terminal O4 in this state. After said wireless transmission section 14 modulates the inputted sending signal, frequency conversion of it is carried out and it transmits as an electric wave from the output antenna 20. And after the output of the signal which should be transmitted is completed, said control section 12 suspends the signal output from the output terminal O3, and makes said switch 16 turn off.

[0027] Moreover, said control section 12 forms a timer 21 in an inside, outputs a signal from the output terminal O2 with a comparatively long interval, and makes said switch 15 turn on. And when said radio receive section 13 receives a signal, after taking in a received signal from the radio receive section 13 and completing taking in of a received signal, the signal output from the output terminal O2 is suspended, and said switch 15 is made to turn off. Moreover, when said radio receive section 13 does not receive a signal, the signal output from the output terminal O2 is suspended, and said switch 15 is made to turn off after fixed time progress.

[0028] Next, the receiving operation of equipment 3-1 - 3-n is explained with reference to drawing 3 or drawing 5 in said each end of the non-end of line. (a) of drawing 3 shows the voltage condition of the input line L1 to the power supply terminal of said radio receive section 13. (b) of drawing 3 shows the strength and time of a received electric wave in the input line L2 from said input antenna 19 to said radio receive section 13, and (c) of drawing 3 shows the voltage condition of the input line L3 to the input terminal I1 of a control section 12.

[0029] Usually, a control section 12 makes a switch 15 turn on for every predetermined interval by a timer 21. This timing is the timing of T1 in drawing 3, T2, and T4. Drawing 4 is the figure which expanded the timing T1 in drawing 3. Since a switch 15 is set to ON in this timing T1, electric power is supplied to the radio receive section 13 from a battery 11, and the radio receive section 13 starts operation.

[0030] If a signal is transmitted from the base transceiver station 1 to this timing, the radio receive section 13 will receive a signal through the input antenna 19. The received signal at this time consists of

the bit synchronization signal B, frame alignment signal F, transmission source address and transmission destination address A, data DATA, and an error control sign FCS, as shown in (b) of drawing 4 . And a switch 15 is made to turn off when it judges that reception of the signal ended the control section 12 in the radio receive section 13.

[0031] Moreover, since a switch 15 is set to ON also in timing T2, electric power is supplied to the radio receive section 13 from a battery 11, and the radio receive section 13 starts operation. However, since the radio receive section 13 did not receive a signal even if fixed time passed to this timing, a control section 12 makes a switch 15 turn off.

[0032] The timing T3 of drawing 3 is the timing when carrying out ON operation of the push switch 17, and drawing 5 is the figure which expanded the timing T3 at this time. That is, since a voltage signal will occur as shown in L3 line at (c) of drawing 5 and it will input into the input terminal I1 if ON operation of the push switch 17 is carried out in the period which the switch 15 turns off, a control section 12 makes a switch 15 turn on. By this, as shown in (a) of drawing 5 , the voltage from a battery 11 occurs in L1 line, the radio receive section 13 is supplied, and, as for the radio receive section 13, operation is started.

[0033] If the input antenna 19 receives as shown in (b) of drawing 5 in this state, after the radio receive section 13 amplifies a received signal, does frequency conversion and gets over, it will supply a control section 12. And a switch 15 is made to turn off when it judges that reception of the signal ended the control section 12 in the radio receive section 13. A control section 12 comes to make a switch 15 turn [after that] on in timing T4 by a timer 21 again. And if there is transmission of the signal from the base transceiver station 1 at this time, the radio receive section 13 will receive a signal through the input antenna 19 like the time of timing T1.

[0034] Thus, in the end of the non-end of line [equipment 3-1 - 3-n] The electric power supply from a battery 11 can be made to perform to the radio receive section 13 quickly by carrying out ON operation of the push switch 17 also in the period which is not performing the electric power supply from a battery 11 to the radio receive section 13, and reception from the radio communication equipment of the base transceiver station 1 or personal digital assistant equipment 7 can be performed immediately.

[0035] Moreover, since in the usual case which does not carry out ON operation of the push switch 17 only the receiving period of a signal turns on a switch 15 with the comparatively long interval set as the timer 21 and it is made to perform the electric power supply from a battery 11 to the radio receive section 13, consumption of a battery 11 can be suppressed as much as possible.

[0036] When [moreover,] those who possess personal digital assistant equipment 7 communicate to equipment in the end of the non-end of line Since it will go to the installation of equipment in the end of the non-end of line and ON operation of the push switch 17 will be carried out It becomes very short [distance] between equipment, therefore the attenuation of an electric wave can be small, the transmission power from personal digital assistant equipment 7 can be stopped in personal digital assistant equipment 7 and the end of the non-end of line, and the power dissipation in personal digital assistant equipment 7 can be reduced.

[0037] Equipment 3-1 - 3-n can be used as electronic bin card equipment by having a display in said each end of the non-end of line. Next, the case where equipment is applied to electronic bin card equipment in the end of the non-end of line is described.

[0038] As shown in drawing 6 , the base transceiver station 21 is installed in a ceiling, a wall, etc. in a

store, and is connected to electronic bin card management equipment (not shown) or a POS server (not shown) through the communication line 22. Moreover, to the shelf space 24 which displayed goods 23, electronic bin card equipment 25, 26, 27, 28, and 29 is arranged corresponding to the kind of goods, respectively. Said each electronic bin card equipment 25-29 has composition which equipped equipment with Displays 25a, 26a, 27a, 28a, and 29a in the end of the non-end of line it mentioned above. Moreover, said each electronic bin card equipment 25-29 arranges the push switches 25b, 26b, 27b, 28b, and 29b which are equivalent to the push switch 17 of equipment in the end of the non-end of line it mentioned above beside Displays 25a-29a. On the other hand, the salesclerk possesses the handy terminal 30 equipped with the display which is personal digital assistant equipment.

[0039] Although said each electronic bin card equipment 25-29 displays the prices of the goods 23 corresponding to Displays 25a-29a, the price information receives from the base transceiver station 21 before opening, and sets it as the memory of a control section. That timing is a time of supply of electric power being performed to a radio receive section by the timer from a battery in each electronic bin card equipment 25-29, and price information is transmitted to electronic bin card equipment from the base transceiver station 21 at this time.

[0040] Moreover, it is most which does not change during the 1st the price once set up in said each electronic bin card equipment 25-29. Moreover, even if it changes, in one day, it is 1 or about 2 times, therefore it is good to supply the electric power from a battery to a radio receive section in each electronic bin card equipment 25-29 at the long interval of 1 or about 2 times on the 1st.

[0041] And although the closing hour has been approaching, when the goods which must be sold within the day like a perishable food or a daily dish still remain or there is much stock of a certain goods, the prices of goods may be lowered and sold at a reduced price.

[0042] When such, a salesclerk possesses a handy terminal 30, goes to a counter, checks the stream of stock or a man, and determines a change price. And the indicated price of applicable electronic bin card equipment is changed. For example, if applicable electronic bin card equipment is electronic bin card equipment 25, a push switch 25b will be operated first. Thereby, with electronic bin card equipment 25, a radio receive section will be connected to a battery and it will be in a receive state.

[0043] The handy terminal 30 possessed in this state is operated, and change price data is transmitted to electronic bin card equipment 25. The electronic bin card equipment 25 which received change price data changes the price currently displayed on Display 25a. And it tells having changed the indicated price of goods into the base transceiver station 21 through the handy terminal 30.

[0044] If the base transceiver station 21 is told that electronic bin card equipment 25 changed the indicated price from the handy terminal 30, it will tell electronic bin card management equipment about the change prices of goods through the communication line 22. And electronic bin card management equipment tells a POS server about the change prices of goods. In this way, the prices of the goods which correspond also in a POS server are changed.

[0045] When going to the place of the POS terminal which performs goods registration processing by this with the goods with which a visitor corresponds and performing goods registration, a POS terminal will receive the price data of applicable goods from a POS server. The indicated price of electronic bin card equipment 25 and the goods price registered by a POS terminal will be in agreement.

[0046] If it does in this way, when a radio receive section shortens time to which electric power is supplied from a battery, can suppress consumption of a battery and wants to change an indicated price moreover in electronic bin card equipment 25-29, change will be possible immediately.

[0047] In addition, although the electronic bin card equipment which changed the indicated price told the base transceiver station 21 about the information via the handy terminal 30, you may make it tell the base transceiver station 21 about it directly from electronic bin card equipment here.

[0048] Next, initial setting of equipment is described in the end of the non-end of line. In addition, the composition of equipment presupposes in the end of the non-end of line that it is the same as that of drawing 2. Initial setting is performed at the time of the inspection at the time of manufacture of equipment, or the input of an initial data. Namely, as shown in drawing 7, equipment 32 is laid on a conveyor belt 31 in the end of the non-end of line, and it is conveyed in the figure Nakaya mark direction. It is radio test equipment, 33 is installed in the inside of a shielding case 34, in this shielding case 34, can perform equipment 32 and wireless communications in the end of the non-end of line, and transmits an initial data. A shielding case 34 succeeds in the operation which weakens the electric power, when the electric wave generated inside is emitted outside.

[0049] Said radio test equipment 33 is connected to the computer 35 currently installed in the exterior of a shielding case 34. Sensors 36 and 37 are formed in the entrance where equipment 32 goes into said shielding case 34 in the end of the non-end of line it is conveyed on a conveyor belt 31, and the exit to which equipment 32 comes out of said shielding case 34 in the end of the non-end of line, respectively. And said computer 35 grasps that equipment 32 enters in a shielding case 34 in the end of the non-end of line with the detection signal from said sensor 36, and equipment 32 comes out of a shielding case 34 in the end of the non-end of line with the detection signal from said sensor 37.

[0050] Said computer 35 will write in the initial data to equipment 32 in taking in of the inspection result from equipment 32, or the end of the non-end of line in the end of the non-end of line which radio test equipment 33 is controlled and is in a shielding case 34, if it grasps that equipment 32 enters in a shielding case 34 in the end of the non-end of line.

[0051] Next, said conveyor belt 31 top is divided into the section X1, X2, X3, and X4, and operation in each section is explained according to the flow chart shown in drawing 8.

[0052] First, in the section X1, equipment 32 is in the state which the assembly completed, and supply of electric power is performed to the control section 12 from the battery 11 in the end of the non-end of line. In this state, initialization of equipment 32 is performed ST1 in the end of the non-end of line. At this time, switches 15 and 16 are in OFF state, and the timer 21 is not operating. Moreover, the control section 12 has memorized neither the serial number which is identification information, nor the set point of a timer 21.

[0053] And if equipment 32 conveys a conveyor belt 31 top and goes into the section X2 in the end of the non-end of line, a push switch 17 will be operated. By operation of this push switch 17, in ST2, a control section 12 carries out ON operation of the switch 15, starts the radio receive section 13 and is changed into the state where an electric wave is receivable.

[0054] If equipment 32 conveys a conveyor belt 31 top further and passes through a sensor 36 front in the end of the non-end of line, a computer 35 will grasp that equipment 32 entered in the section X3 34, i. e., a shielding case, and will output the command which starts inspection to radio test equipment 33 in ST3 in the end of the non-end of line. Since equipment 32 is in the receivable state in the end of the non-end of line, the electric wave transmitted from radio test equipment 33 can be received, and radio test equipment 33 performs inspection of equipment 32 in the end of the non-end of line.

[0055] Inspection is completed, and if it checks that equipment 32 is operating normally in the end of the non-end of line, data input will be performed in ST4. As data at this time, it is data which fitted the set

point and the destination of the serial number of equipment 32, or a timer 21 in the end of the non-end of line. Then, a timer 21 is operated in ST5 and it comes to repeat the control which makes a switch 15 turn on periodically by this timer, and electric power will be supplied from a battery 11 at intervals of predetermined time, and the radio receive section 13 will repeat starting intermittently.

[0056] If equipment 32 conveys a conveyor belt 31 top further and passes through a sensor 37 front in the end of the non-end of line, a computer 35 will grasp that equipment 32 came out of the section X4 34, i.e., a shielding case, in the end of the non-end of line. What carries out normal operation ships equipment 32, and what carried out unusual operation is removed in the end of the non-end of line it came out of the shielding case 34.

[0057] [if the radio receive section 13 comes to repeat starting intermittently, will end initial setting of equipment 32 in the end of the non-end of line, but] ON operation of a switch 15 is performed by the control section 12 with the time data with which a timer 21 counts equipment 32, and the electric power from a battery 11 is supplied to the radio receive section 13 in the end of the non-end of line at the time of ON of a switch 15. And if the radio receive section 13 does not receive an electric wave even if fixed time passes, a control section 12 makes a switch 15 turn off.

[0058] Thus, only equipment can be made into an intermittent receive state in the end of the non-end of line which had it checked to operate normally, and it is not necessary to start equipment by inspection, in the destination in the end of the non-end of line. When following, for example, installing in a store, a warehouse, or a factory by using equipment as electronic bin card equipment etc. in the non-end-of-line end of hundreds of or more sets, since equipment is already in activation status, it does not have the necessity of making it starting anew, and can make equipment install efficiently in each end of the non-end of line in each end of the non-end of line. Therefore, the number to install can fully cope with it at least.

[0059] (Form of the 2nd operation) Also in the form of this operation, system-wide composition is the same as that of the form of the 1st operation. The composition of equipment 3-1 - 3-n differs in the end of the non-end of line. That is, equipment 3-1 - 3-n are supplied to the rectifier circuit 41 which constitutes an external signal detecting element in the end of the non-end of line while the input antenna 19 supplies the received signal which received and obtained the electric wave to the radio receive section 13, as shown in drawing 9 . And after carrying out smooth [of the output of said rectifier circuit 41] in the smoothing circuit 42, the power supply terminal of said radio receive section 13 is supplied through the 2nd point of contact 43b and the common point of contact 43c of the change-over switch 43. Moreover, the power supply terminal of said radio receive section 13 is connected through the common point of contact 43c and the 1st point of contact 43a of said change-over switch 43 to a battery 11. In addition, the 1st point-of-contact [of said change-over switch 43] 43a and common point-of-contact 43c side is called ** side below, and the 2nd point-of-contact 43b and common point-of-contact 43c side is called ** side below.

[0060] When the electric power of the electric wave which the input antenna 19 receives in the state where ** side of the change-over switch 43 turns on, in this composition is large Electric power is supplied to the radio receive section 13 through the rectifier circuit 41 and the smoothing circuit 42, in this state, the radio receive section 13 amplifies and does frequency conversion of the received signal from the input antenna 19, it gets over further, and a digital signal is inputted into a control section 121.

[0061] Next, the receiving operation of equipment is explained with reference to drawing 10 or drawing 12 in the end of the non-end of line. (a) of drawing 10 shows the timing of said change-over switch 43 of

operation, it is shown that ** side turns on **, and it is shown that ** side turns on **. (b) of drawing 10 shows the voltage condition of the input line L1 to the power supply terminal of the radio receive section 13, and (c) of drawing 10 shows the strength and time of the received electric wave in the input line L2 from the input antenna 19 to said radio receive section 13.

[0062] Said control section 121 forms a timer 211 in an inside, and by this timer 211, a control section 121 switches the change-over switch 43 to ** side from ** side for every predetermined interval, and connects the radio receive section 13 to a battery 11. That is, a control section 121 switches the change-over switch 43 to ** side from ** side by timing T11, T13, and T15.

[0063] Since the change-over switch 43 switches from ** side to ** side as drawing 11 is the figure which expanded the timing T11 in drawing 10 and this timing T11 is shown in (a) The radio receive section 13 connects with a battery 11, and the voltage condition of the input line L1 to the power supply terminal of the radio receive section 13 exceeds threshold voltage TH1 which operates the radio receive section 13, as shown in (b). Thereby, the radio receive section 13 can catch a received signal also from the weak electric wave which the input antenna 19 receives, as shown in (c).

[0064] The received signal at this time consists of the bit synchronization signal B, frame alignment signal F, transmission source address and transmission destination address A, data DATA, and an error control sign FCS, as shown in (c) of drawing 11 . And if it judges that reception of the signal ended the control section 121 in the radio receive section 13, the change-over switch 43 will be switched to ** side from ** side.

[0065] Moreover, since the change-over switch 43 switches from ** side to ** side also in timing T13, the radio receive section 13 connects with a battery 11, and the radio receive section 13 starts operation. However, since the radio receive section 13 did not receive a signal even if fixed time passed to this timing, a control section 121 switches the change-over switch 43 to ** side from ** side.

[0066] Moreover, in timing T15, like timing T11, since the change-over switch 43 switches from ** side to ** side, the radio receive section 13 connects with a battery 11, and the voltage condition of the input line L1 to the power supply terminal of the radio receive section 13 exceeds threshold voltage TH1 which operates the radio receive section 13. Thereby, the radio receive section 13 can catch a received signal also from the weak electric wave which the input antenna 19 receives.

[0067] Moreover, in timing T12, if an electric wave is inputted into the input antenna 19 in the state where the change-over switch 43 turns on ** side, the rectifier circuit 41 and the smoothing circuit 42 will be minded, it rectifies, and smooth [of this received signal] will be carried out, and it will be supplied to the power supply terminal of the radio receive section 13. However, the electric wave at this time is weak, and since the voltage supplied to the power supply terminal of the radio receive section 13 is one or less threshold voltage TH, the radio receive section 13 does not perform receiving operation.

[0068] As drawing 12 is the figure which expanded the timing T14 in drawing 10 and this timing T14 is shown in (b) If an electric wave is inputted into the input antenna 19 in the state where the change-over switch 43 turns on ** side, the rectifier circuit 41 and the smoothing circuit 42 will be minded, it rectifies, and smooth [of this received signal] will be carried out, and it will be supplied to the power supply terminal of the radio receive section 13. A received signal consists of the bit synchronization signal B, frame alignment signal F, transmission source address and transmission destination address A, data DATA, and an error control sign FCS, as shown in (c) of drawing 11 . Since the electric power of the electric wave including the bit synchronization signal B at this time is large, the voltage supplied to

the power supply terminal of the radio receive section 13 exceeds threshold voltage TH1, and the radio receive section 13 starts operation. First, the radio receive section 13 receives the bit synchronization signal B, performs this frequency conversion and recovery, and inputs into a control section 121 this bit synchronization signal B to which it restored.

[0069] A control section 121 will switch the change-over switch 43 to ** side from ** side, if the bit synchronization signal B is taken in. Electric power is supplied from a battery 11 and the radio receive section 13 comes to be able to do operation come and stabilized thereby. In this way, the radio receive section 13 will receive the bit synchronization signal B, frame alignment signal F, transmission source address and transmission destination address A, Data DATA, and the error control sign FCS. Then, if it judges that reception of the signal ended the control section 121 in the radio receive section 13, the change-over switch 43 will be switched to ** side from ** side.

[0070] In such composition, since distance with equipment is separated in the base transceiver station 1 and the end of the non-end of line, the electric wave transmitted from the base transceiver station 1 has large attenuation until it is received by equipment in the end of the non-end of line, and as shown in the timing T11 of drawing 10, T12, and T15, received power becomes small. In such a case, the radio receive section 13 of equipment should just transmit information from the base transceiver station 1 to the timing to which electric power is supplied from a battery 11 in the end of the non-end of line. Namely, what is necessary is just to transmit information from the base transceiver station 1 according to the timing which switches the change-over switch 43 to ** side from ** side by a timer 211 in equipment in the end of the non-end of line.

[0071] Moreover, if the person who possessed personal digital assistant equipment 7 transmits by approaching equipment in the end of the non-end of line, as shown in the timing T14 of drawing 10, the received power in equipment will become large and operation of the radio receive section 13 of it will be attained with this received power in the end of the non-end of line. Therefore, transmission to equipment can be performed from personal digital assistant equipment 7 in the end of the non-end of line by approaching equipment in the end of the non-end of line the person who possessed personal digital assistant equipment 7 always corresponds.

[0072] Thus, equipment can perform communication with radio communication equipment in the end of the non-end of line also in the period which is not performing the electric power supply from a battery 11 to the radio receive section 13. And since only a short time is made to perform the electric power supply from a battery 11 to the radio receive section 13 with the comparatively long interval usually set as the timer 211, consumption of a battery 11 can be suppressed as much as possible.

[0073] In addition, after receiving the bit synchronization signal B in timing T14, switching the change-over switch 43 to ** side from ** side and connecting the radio receive section 13 to the battery 11 with the form of this operation, it was made to perform receiving operation, but it is not necessarily what is limited to this. It is carried out by stabilizing the supply of electric power to the radio receive section 13 from the smoothing circuit 42, and when the radio receive section 13 is stabilized and can operate, you may be made to perform receiving operation, without switching the change-over switch 43.

[0074] Equipment can be used as electronic bin card equipment by having a display in the end of the non-end of line. Next, the case where equipment is applied to electronic bin card equipment in the end of the non-end of line is described.

[0075] As shown in drawing 13, the base transceiver station 51 is installed in a ceiling, a wall, etc. in a store, and is connected to electronic bin card management equipment (not shown) or a POS server (not

shown) through the communication line 52. Moreover, to the shelf space 54 which displayed goods 53, electronic bin card equipment 55, 56, 57, 58, and 59 is arranged corresponding to the kind of goods, respectively. Said each electronic bin card equipment 55-59 has composition which equipped equipment with Displays 55a, 56a, 57a, 58a, and 59a in the end of the non-end of line it mentioned above. On the other hand, the salesclerk possesses the handy terminal 60 equipped with the display which is personal digital assistant equipment.

[0076] Although said each electronic bin card equipment 55-59 displays the prices of the goods 53 corresponding to Displays 55a-59a, the price information receives from the base transceiver station 51 before opening, and sets it as the memory of a control section. That timing is a time of supply of electric power being performed to a radio receive section by the timer from a battery in each electronic bin card equipment 55-59, and price information is transmitted to electronic bin card equipment from the base transceiver station 51 at this time.

[0077] Moreover, it is most which does not change during the 1st the price once set up in said each electronic bin card equipment 55-59. Moreover, even if it changes, in one day, it is 1 or about 2 times, therefore it is good to supply the electric power from a battery to a radio receive section in each electronic bin card equipment 55-59 at the long interval of 1 or about 2 times on the 1st.

[0078] And although the closing hour has been approaching, when the goods which must be sold within the day like a perishable food or a daily dish still remain or there is much stock of a certain goods, the prices of goods may be lowered and sold at a reduced price.

[0079] When such, a salesclerk possesses a handy terminal 60, goes to a counter, checks the stream of stock or a man, and determines a change price. And the indicated price of applicable electronic bin card equipment is changed. For example, if applicable electronic bin card equipment is electronic bin card equipment 55, it will carry out to this electronic bin card equipment 55 front, a handy terminal 60 will be operated, and change price data will be transmitted to electronic bin card equipment 55.

[0080] At this time, electronic bin card equipment 55 and a handy terminal 60 are close. The received power of the electronic bin card equipment 55 which received the electric wave from a handy terminal 60 is large, and a radio receive section starts operation in response to the electric power of the electric wave including the bit synchronization signal from a handy terminal 60, and receives the bit synchronization signal from a handy terminal 60. A control section switches a change-over switch by this, a radio receive section is connected to a battery, and henceforth, a radio receive section is stabilized and operates. Therefore, even if the direction to the electronic bin card equipment of the handy terminal 60 which a salesclerk has changes for example, and the radio-wave-propagation state between a handy terminal 60 and electronic bin card equipment changes somewhat, it is stabilized and the change price data from a handy terminal 60 is received.

[0081] In this way, electronic bin card equipment 55 changes the price currently displayed on Display 55a. And it tells having changed the indicated price of goods into the base transceiver station 51 through the handy terminal 60.

[0082] If the base transceiver station 51 is told that electronic bin card equipment 55 changed the indicated price from the handy terminal 60, it will tell electronic bin card management equipment about the change prices of goods through the communication line 52. And electronic bin card management equipment tells a POS server about the change prices of goods. In this way, the prices of the goods which correspond also in a POS server are changed.

[0083] When going to the place of the POS terminal which performs goods registration processing by

this with the goods with which a visitor corresponds and performing goods registration, a POS terminal will receive the price data of applicable goods from a POS server. The indicated price of electronic bin card equipment 25 and the goods price registered by a POS terminal will be in agreement.

[0084] If it does in this way, when a radio receive section shortens time to which electric power is supplied from a battery, can suppress consumption of a battery and wants to change an indicated price moreover in electronic bin card equipment 55-59, change will be possible immediately.

[0085] In addition, although the electronic bin card equipment which changed the indicated price told the base transceiver station 51 about the information via the handy terminal 60, you may make it tell the base transceiver station 51 about it directly from electronic bin card equipment here.

[0086] Next, initial setting of equipment is described in the end of the non-end of line. In addition, the composition of equipment presupposes in the end of the non-end of line that it is the same as that of drawing 9. Initial setting is performed at the time of the inspection at the time of manufacture of equipment, or the input of an initial data. Namely, as shown in drawing 14, equipment 62 is laid on a conveyor belt 61 in the end of the non-end of line, and it is conveyed in the figure Nakaya mark direction. It is radio test equipment, 63 is installed in the inside of a shielding case 64, in this shielding case 64, can perform equipment 62 and wireless communications in the end of the non-end of line, and transmits an initial data. A shielding case 64 succeeds in the operation which weakens the electric power, when the electric wave generated inside is emitted outside.

[0087] Said radio test equipment 63 is connected to the computer 65 currently installed in the exterior of a shielding case 64. Sensors 66 and 67 are formed in the entrance where equipment 62 goes into said shielding case 64 in the end of the non-end of line it is conveyed on a conveyor belt 61, and the exit to which equipment 62 comes out of said shielding case 64 in the end of the non-end of line, respectively. And said computer 65 grasps that grasp that equipment 62 enters in a shielding case 64 in the end of the non-end of line with the detection signal from said sensor 66, and equipment 62 comes out of a shielding case 64 in the end of the non-end of line with the detection signal from said sensor 67.

[0088] Said computer 65 will write in the initial data to equipment 62 in taking in of the inspection result from equipment 62, or the end of the non-end of line in the end of the non-end of line which radio test equipment 63 is controlled and is in a shielding case 64, if it grasps that equipment 62 enters in a shielding case 64 in the end of the non-end of line.

[0089] Next, said conveyor belt 61 top is divided into the section X11, X12, and X13, and operation in each section is explained according to the flow chart shown in drawing 15.

[0090] First, in the section X11, equipment 62 is in the state which the assembly completed, and supply of electric power is performed to the control section 121 from the battery 11 in the end of the non-end of line. In this state, initialization of equipment 62 is performed ST11 in the end of the non-end of line. At this time, the change-over switch 43 is in the state where it was switched to ** side, and the timer 211 is not operating. Moreover, the control section 121 has memorized neither the serial number which is identification information, nor the set point of a timer 211.

[0091] And if equipment 62 conveys a conveyor belt 61 top and passes through a sensor 66 front in the end of the non-end of line, a computer 65 will grasp that equipment 62 entered in the section X12 64, i. e., a shielding case, in the end of the non-end of line, and will output the command to which an electric wave is made to output to radio test equipment 63. Thereby, radio detection equipment 63 transmits an electric wave to equipment 62 in the end of the non-end of line.

[0092] In ST12, if the electric wave from radio test equipment 63 is received, equipment 62 will supply

electric power to the radio receive section 13 through the rectifier circuit 41 and the smoothing circuit 42 from the input antenna 19, and, thereby, the radio receive section 13 will start it in the end of the non-end of line. If the radio receive section 13 starts, communication will become possible in radio test equipment 63 and the end of the non-end of line between equipment 62, and, as for radio test equipment 63, inspection of equipment 62 will be performed in ST13 in the end of the non-end of line.

[0093] Inspection is completed, and if it checks that equipment 62 is operating normally in the end of the non-end of line, data input will be performed in ST14. As data at this time, it is data which fitted the set point and the destination of the serial number of equipment 62, or a timer 211 in the end of the non-end of line. Then, a timer 211 is operated in ST15 and it comes to repeat the control which carries out change operation of the change-over switch 43 periodically by this timer, and electric power will be supplied from a battery 11 at intervals of predetermined time, and the radio receive section 13 will repeat starting intermittently.

[0094] If equipment 62 conveys a conveyor belt 61 top further and passes through a sensor 67 front in the end of the non-end of line, a computer 65 will grasp that equipment 62 came out of the section X13 64, i.e., a shielding case, in the end of the non-end of line. What carries out normal operation ships equipment 62, and what carried out unusual operation is removed in the end of the non-end of line it came out of the shielding case 64.

[0095] [if the radio receive section 13 comes to repeat starting intermittently, will end initial setting of equipment 62 in the end of the non-end of line, but] Change operation of the change-over switch 43 is performed by the control section 121 with the time data with which a timer 211 counts equipment 62, and the electric power from a battery 11 is supplied to the radio receive section 13 in the end of the non-end of line to the timing from which the change-over switch 43 switches to ** side. And if the radio receive section 13 does not receive an electric wave even if fixed time passes, as for a control section 121, ** side obtains the change-over switch 43, and it switches it.

[0096] Thus, only equipment can be made into an intermittent receive state in the end of the non-end of line which had it checked to operate normally, and it is not necessary to start equipment by inspection, in the destination in the end of the non-end of line. When following, for example, installing in a store, a warehouse, or a factory by using equipment as electronic bin card equipment etc. in the non-end-of-line end of hundreds of or more sets, since equipment is already in activation status, it does not have the necessity of making it starting anew, and can make equipment install efficiently in each end of the non-end of line in each end of the non-end of line. Therefore, the number to install can fully cope with it at least.

[0097] (Form of the 3rd operation) Also in the form of this operation, system-wide composition is the same as that of the form of the 1st operation. The composition of equipment 3-1 - 3-n differs in the end of the non-end of line. That is, equipment 3-1 - 3-n are supplied to the rectifier circuit 41 which constitutes an external signal detecting element in the end of the non-end of line while the input antenna 19 supplies the received signal which received and obtained the electric wave to the radio receive section 13, as shown in drawing 16 . And the output of said rectifier circuit 41 is inputted into the input terminal I3 of a control section 122.

[0098] The control of said control section 122 which outputs a signal from the output terminal O2 with a comparatively long interval, and makes a switch 15 turn on by the timer 21 prepared in the inside is the same as that of the control section 12 in the form of the 1st operation mentioned above. Moreover, said control section 122 makes said switch 15 turn on, when the voltage inputted through the input line L4

from said rectifier circuit 41 exceeds threshold voltage TH2.

[0099] In this composition, the input antenna's 19 reception of an electric wave will supply a received signal to the rectifier circuit 41 and the radio receive section 13. When the electric power of the electric wave which the input antenna 19 receives is large, the voltage outputted from the rectifier circuit 41 becomes high. Moreover, frequency conversion is amplified and carried out, it gets over further, and the received signal inputted into the radio receive section 13 from the input antenna 19 is inputted into a control section 122 as a digital signal.

[0100] Next, the receiving operation of equipment is explained with reference to drawing 17 or drawing 20 in the end of the non-end of line. (a) of drawing 17 shows the voltage condition of the input line L1 to the power supply terminal of said radio receive section 13. (b) of drawing 17 shows the strength and time of a received electric wave in the input line L2 from said input antenna 19 to said radio receive section 13, and (c) of drawing 17 shows the voltage condition of the input line L4 to the input terminal I3 of a control section 12.

[0101] By a timer 21, said control section 122 carries out ON operation of the switch 15 for every predetermined interval, and connects the radio receive section 13 to a battery 11. That is, the control section 122 is carrying out ON operation of the switch 15 by timing T21, T22, and T24.

[0102] Drawing 18 is the figure which expanded the timing T21 in drawing 17, since a switch 15 is set to ON in this timing T21, electric power is supplied to the radio receive section 13 from a battery 11, and the radio receive section 13 starts operation. If a signal is transmitted from the base transceiver station 1 to this timing, the radio receive section 13 will receive a signal through the input antenna 19.

[0103] The received signal at this time consists of the bit synchronization signal B, frame alignment signal F, transmission source address and transmission destination address A, data DATA, and an error control sign FCS, as shown in (b) of drawing 18. And a switch 15 is made to turn off when it judges that reception of the signal ended the control section 122 in the radio receive section 13. The electric power of the electric wave which the input antenna 19 receives at this time is weak, and even if the voltage inputted into the input terminal I3 of a control section 122 is below threshold voltage, a control section 122 receives a signal.

[0104] Moreover, since a switch 15 is set to ON also in timing T22, electric power is supplied to the radio receive section 13 from a battery 11, and the radio receive section 13 starts operation. However, since the radio receive section 13 did not receive a signal even if fixed time passed to this timing, a control section 122 makes a switch 15 turn off.

[0105] The timing T23 of drawing 17 is operation when the input antenna 19 receives the big electric wave of electric power, when a switch 15 is in OFF state. The figure which expanded this timing T23 is drawing 19. That is, if the input antenna 19 receives the big electric wave of electric power in the period which the switch 15 turns off, it will become large as the voltage which appears in L2 line shows (b) of drawing 17.

[0106] Therefore, at this time, the output voltage from the rectifier circuit 41 becomes high, and the signal voltage inputted into the input terminal I3 of a control section 122 becomes higher than threshold voltage TH2, as shown in (c) of drawing 17, and (c) of drawing 19. Thereby, a control section 122 makes a switch 15 turn on. The radio receive section 13 is connected to a battery 11, and the radio receive section 13 starts operation because a switch 15 turns on.

[0107] It cannot restore to a received signal correctly until the radio receive section 13 starts in

equipment in the end of the non-end of line. For this reason, it continues transmitting the bit synchronization signal B until the radio receive section 13 of equipment starts the radio communication equipment which transmits a sending signal to equipment in the end of the non-end of line from a transmitting start in the end of the non-end of line and it establishes bit synchronization.

[0108] If bit synchronization is established in equipment in the end of the non-end of line, radio communication equipment will transmit frame alignment signal F, transmission source address and transmission destination address A, Data DATA, and the error control sign FCS continuously, and as for equipment, this will be received one by one in the end of the non-end of line, as shown in (b) of drawing 19. And a switch 15 is made to turn off when it judges that reception of the signal ended the control section 122 in the radio receive section 13.

[0109] Drawing 20 is the figure which expanded the timing T24 in drawing 17. [as the voltage which the electric power of the electric wave which the input antenna 19 received in this timing T24 inputs into the input terminal I3 of a control section 122 from the input line L4 comparatively greatly shows (c) of drawing 17, and (c) of drawing 20, become higher than threshold voltage TH2, but] Since the switch 15 is already turned ON, this state is held and receiving operation is continued.

[0110] Thus, reception is possible even if the electric wave which the input antenna 19 receives is weak, when a switch 15 is turned on and the radio receive section 13 has connected with a battery 11.

Therefore, attenuation since distance with equipment is separated in the base transceiver station 1 and the end of the non-end of line, until the electric wave transmitted from the base transceiver station 1 is received by equipment in the end of the non-end of line is large. As shown in the timing T21 of drawing 17, the received power should just transmit information from the base transceiver station 1 to the timing by which electric power is supplied to the radio receive section 13 of equipment from a battery 11 in the end of the non-end of line, when becoming small. Namely, what is necessary is just to transmit information from the base transceiver station 1 according to the timing the switch 15 of carries out ON operation by a timer 21 in equipment in the end of the non-end of line.

[0111] Moreover, when the person who possessed personal digital assistant equipment 7 transmits by approaching equipment in the end of the non-end of line, as shown in the timing T23 of drawing 17, the received power in equipment becomes large and operation of the radio receive section 13 of it is attained with this received power in the end of the non-end of line. Therefore, in such a case, it can go to the installation of equipment in the end of the non-end of line the person who possessed personal digital assistant equipment 7 always corresponds, and it can transmit information to equipment from personal digital assistant equipment 7 in the end of the non-end of line.

[0112] Furthermore, when distance with equipment is comparatively near in the base transceiver station 1 and the end of the non-end of line, as it is shown in the timing T24 of drawing 17, the received power in equipment may exceed threshold voltage TH2 in the end of the non-end of line. In such a case, since operation of the radio receive section 13 is attained, even if a switch 15 does not carry out ON operation by a timer 21, equipment can start receiving operation in the end of the non-end of line. Therefore, also in such a case, information can be transmitted from the base transceiver station 1 in the end of the non-end of line at any time at equipment.

[0113] Thus, equipment starts the radio receive section 13 also in the period which a switch 15 is in OFF state and is not performing the electric power supply from a battery 11 to the radio receive section 13, and can perform communication with radio communication equipment in the end of the non-end of line.

And since only a short time is made to perform the electric power supply from a battery 11 to the radio receive section 13 with the comparatively long interval usually set as the timer 211, consumption of a battery 11 can be suppressed as much as possible.

[0114] In addition, also in the form of this operation, equipment can be applied to electronic bin card equipment in the end of the non-end of line, and that example of application serves as composition which was mentioned above and which is the same as that of the form of the 2nd operation, and is shown in drawing 13 . Moreover, initial setting of equipment serves as composition which was mentioned above and which can perform like the form of the 2nd operation and is shown in drawing 14 in the end of the non-end of line in the form of this operation.

[0115]

[Effect of the Invention] As explained in full detail above, according to invention according to claim 1 to 3, time not to supply battery power to a radio receive section can be set up for a long time, and consumption of a battery can be suppressed as much as possible. And when receiving the signal from the outside, equipment can be offered in the end of the non-end of line which battery power to a radio receive section is supplied quickly, and can receive a signal immediately.

[0116] Moreover, according to invention according to claim 4 to 8, it sets to equipment in the end of the non-end of line. Time not to supply battery power to a radio receive section can be set up for a long time, and consumption of a battery can be suppressed as much as possible. And when receiving the signal from the outside, battery power to a radio receive section is supplied quickly, a signal can be received immediately, and thereby, the radio communications system which can transmit at any time can be offered to transmit information to equipment from radio communication equipment in the end of the non-end of line.

[0117] After [moreover,] according to invention according to claim 9 to 11 initial setting is possible in advance and initializing Time not to supply battery power to a radio receive section can be set up for a long time, consumption of a battery can be suppressed as much as possible, and moreover, when receiving the signal from the outside, the initial-setting method of equipment can be offered in the end of the non-end of line which battery power to a radio receive section is supplied quickly, and can receive a signal immediately.

[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the composition of the radio communications system in the form of operation of the 1st of this invention.

[Drawing 2] The circuit configuration figure showing the composition of equipment in the end of the non-end of line in the form of this operation.

[Drawing 3] The timing wave form chart for explaining the receiving operation of equipment in the end of the non-end of line in the form of this operation.

[Drawing 4] The expansion wave form chart of the timing T1 in drawing 3 .

[Drawing 5] The expansion wave form chart of the timing T3 in drawing 3 .

[Drawing 6] The figure showing the example at the time of applying equipment to electronic bin card equipment in the end of the non-end of line in the form of this operation.

[Drawing 7] The figure showing the example which initializes equipment in the end of the non-end of line in the form of this operation.

[Drawing 8] The flow chart showing the procedure at the time of initial setting in drawing 7 .

[Drawing 9] The circuit configuration figure showing the composition of equipment in the end of the non-end of line in the form of operation of the 2nd of this invention.

[Drawing 10] The timing wave form chart for explaining the receiving operation of equipment in the end of the non-end of line in the form of this operation.

[Drawing 11] The expansion wave form chart of the timing T11 in drawing 10 .

[Drawing 12] The expansion wave form chart of the timing T14 in drawing 10 .

[Drawing 13] The figure showing the example at the time of applying equipment to electronic bin card equipment in the end of the non-end of line in the form of this operation.

[Drawing 14] The figure showing the example which initializes equipment in the end of the non-end of line in the form of this operation.

[Drawing 15] The flow chart showing the procedure at the time of initial setting in drawing 14 .

[Drawing 16] The circuit configuration figure showing the composition of equipment in the end of the non-end of line in the form of operation of the 3rd of this invention.

[Drawing 17] The timing wave form chart for explaining the receiving operation of equipment in the end of the non-end of line in the form of this operation.

[Drawing 18] The expansion wave form chart of the timing T21 in drawing 17 .

[Drawing 19] The expansion wave form chart of the timing T23 in drawing 17 .

[Drawing 20] The expansion wave form chart of the timing T24 in drawing 17 .

[Explanations of letters or numerals]

3-1 - 3-n -- Radio terminal unit

11 -- Battery

12 -- Control section

13 -- Radio receive section

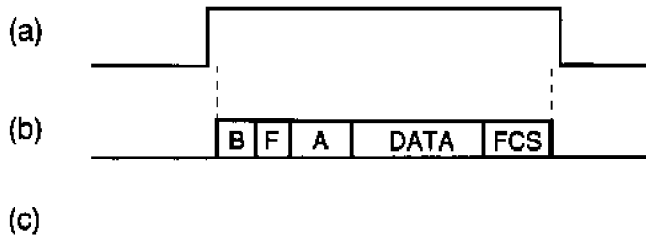
15 -- Switch

17 -- Push switch

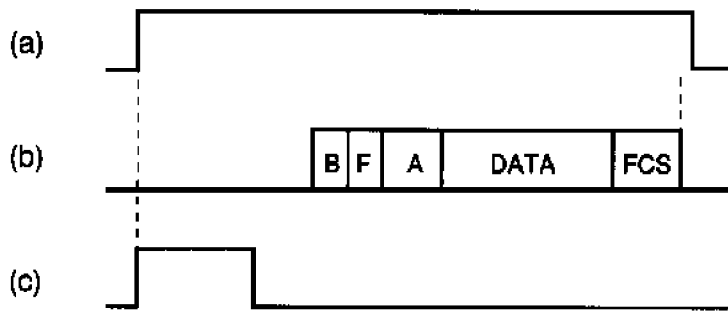
19 -- Input antenna

21 -- Timer

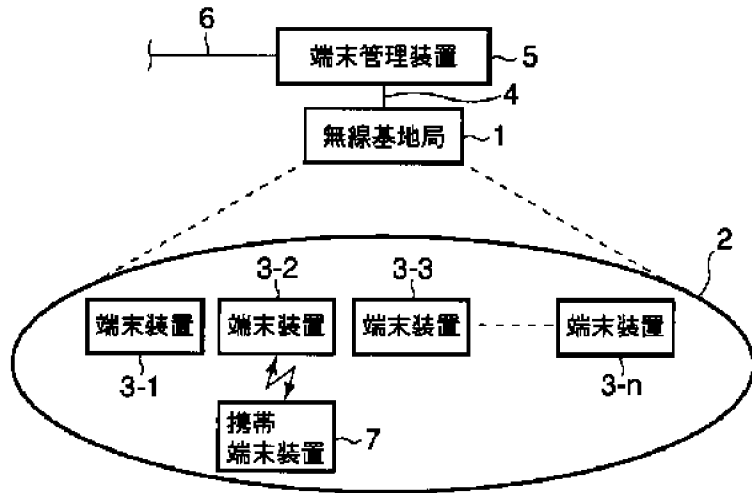
[Drawing 4]



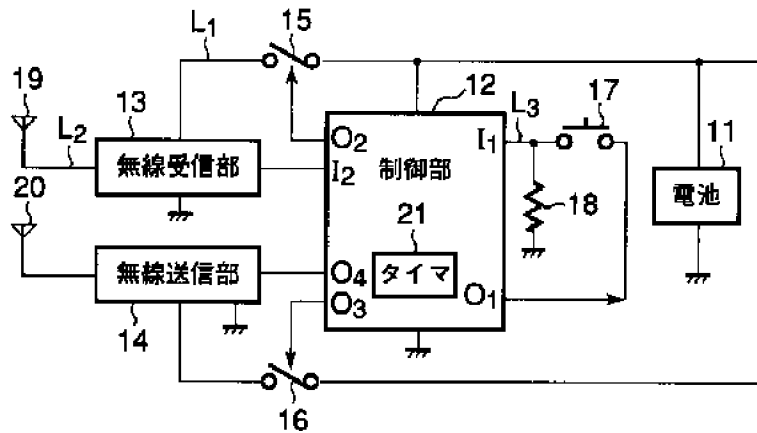
[Drawing 5]



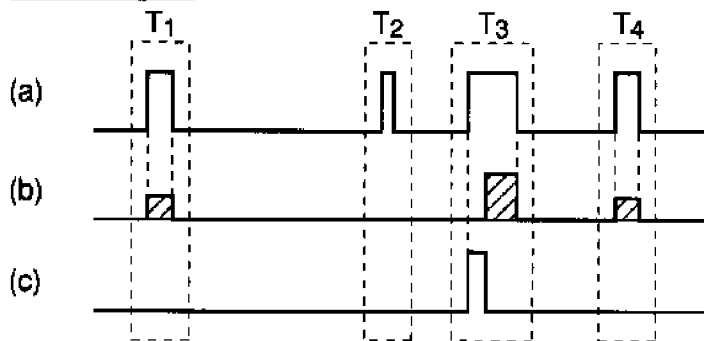
[Drawing 1]



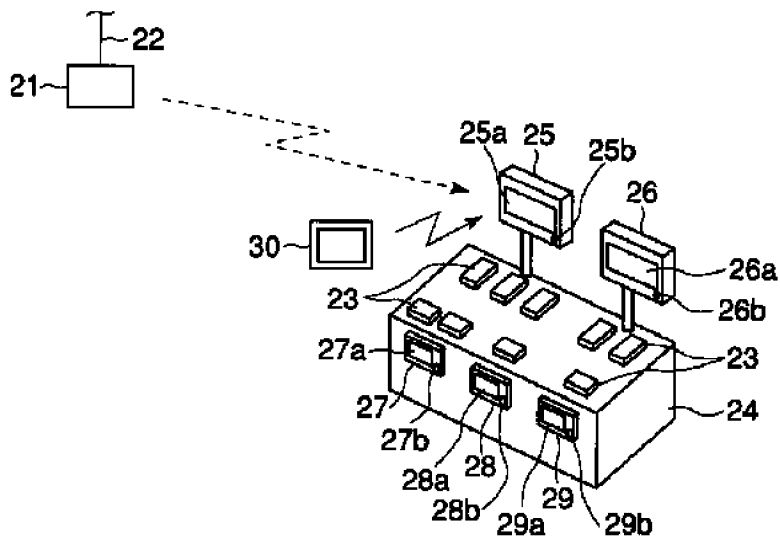
[Drawing 2]



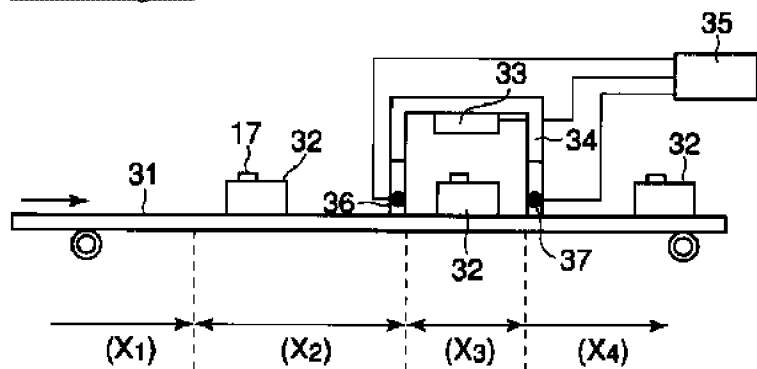
[Drawing 3]



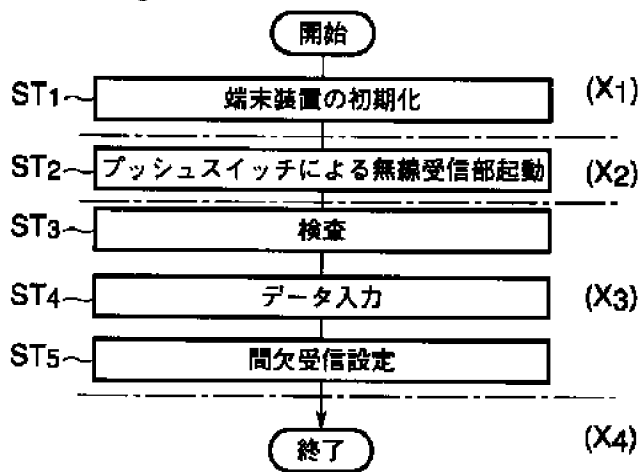
[Drawing 6]



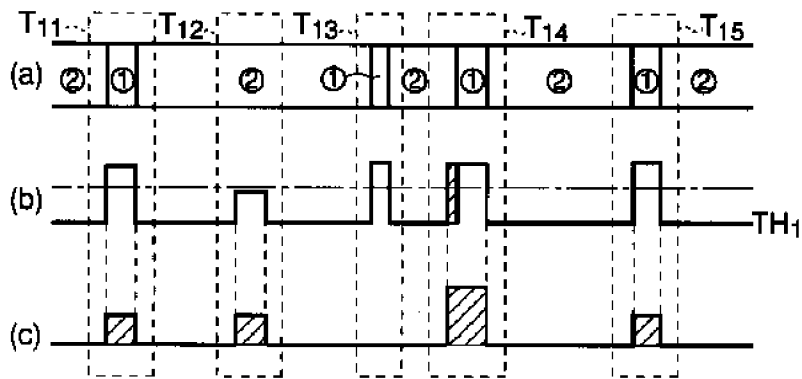
[Drawing 7]



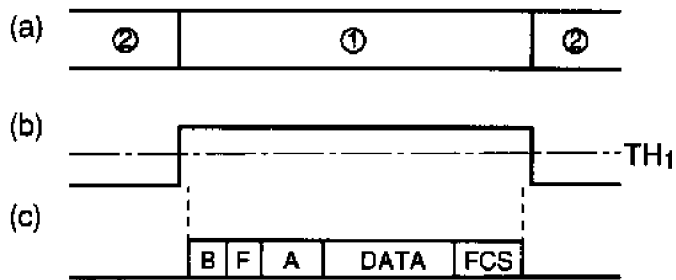
[Drawing 8]



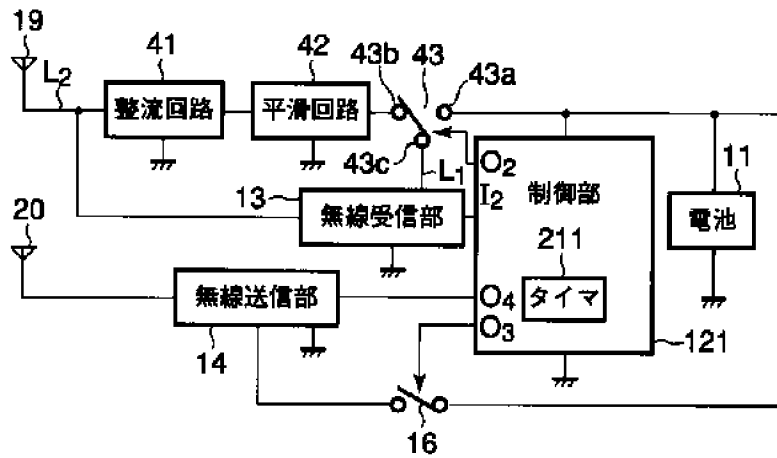
[Drawing 10]



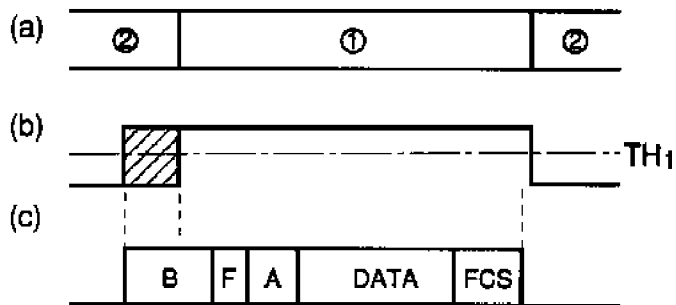
[Drawing 11]



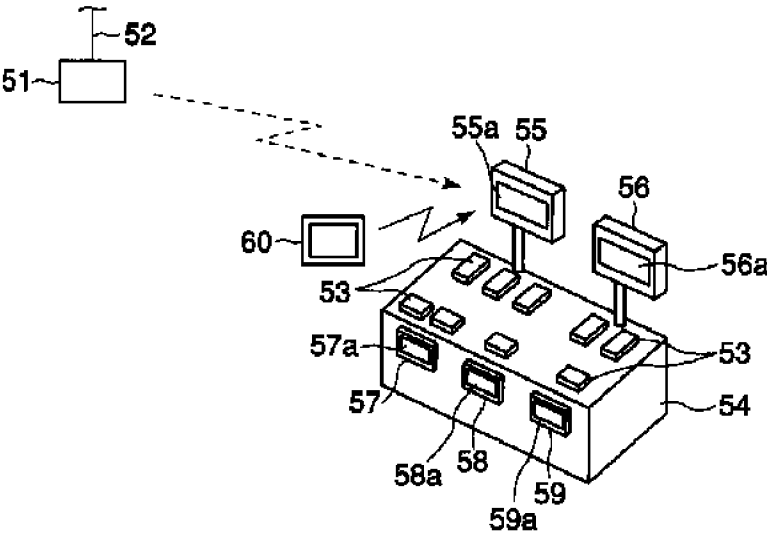
[Drawing 9]



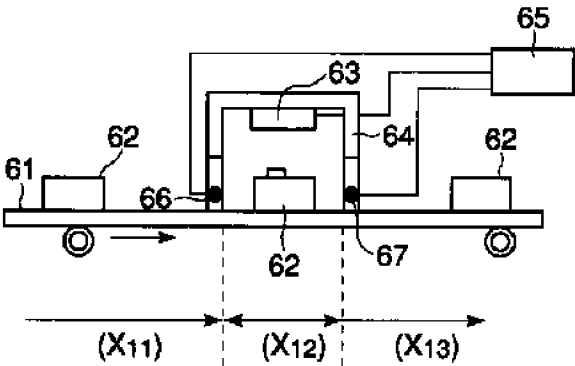
[Drawing 12]



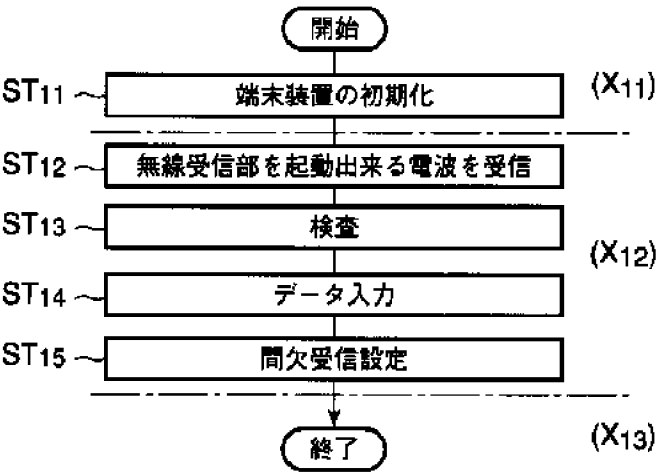
[Drawing 13]



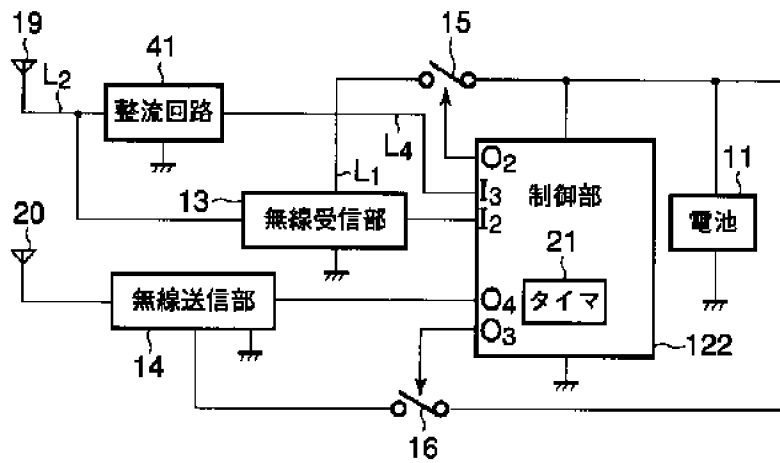
[Drawing 14]



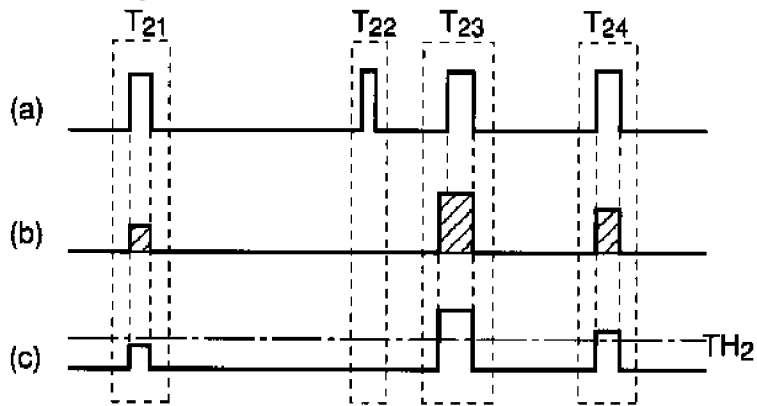
[Drawing 15]



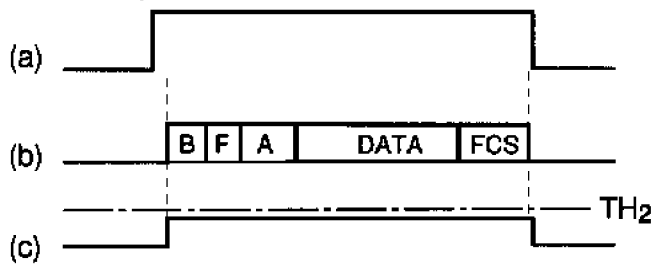
[Drawing 16]



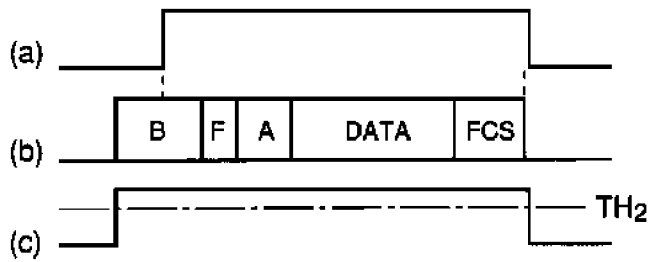
[Drawing 17]



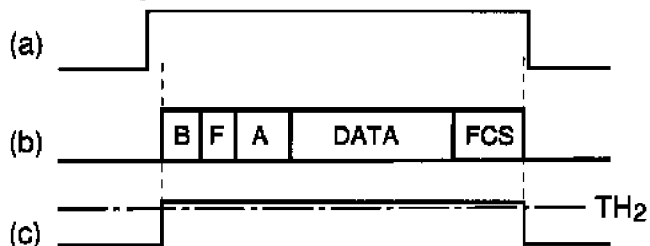
[Drawing 18]



[Drawing 19]



[Drawing 20]



[Translation done.]